



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,577	03/12/2004	Chung-jeon Lee	P57047	6527

7590 08/29/2006
Robert E. Bushnell
Suite 300
1522 K Street, N.W.
Washington, DC 20005

EXAMINER

NGUYEN, TAI V

ART UNIT PAPER NUMBER

3729

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/798,577

Applicant(s)

LEE ET AL.

Examiner

Tai Van Nguyen

Art Unit

3729

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-53 is/are pending in the application.
- 4a) Of the above claim(s) 34-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) is/are allowed.
- 6) ☒ Claim(s) 39-42 and 47-53 is/are rejected.
- 7) ☒ Claim(s) 43-46 is/are objected to.
- 8) ☐ Claim(s) are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/12/04, 5/22/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. Applicants' arguments filed on 5/22/2006 (see their "Remarks" pages 9-10) that Chan et al reference does not teach the step of "forming a pattern electrode layer on the substrate, wherein the patterned electrode layer being electrically connected to the resistive heater element and forming barrier wall over the substrate" are found to be persuasive. Therefore, a new ground rejection on the merits of claims 39-46 as well as newly added claims 47-53 as follows.

Election/Restrictions

2. Regarding the typographic error as noticed in paragraph 2 of the prior action it is confirmed that pending claims are 34-53 includes non elected invention namely claims 34-38 instead of claims 39-46. Upon in the review the prior restriction claims 34-38 are held to be non elected invention the same reasons provided from Paragraph 1 of the prior action.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed subject matter such as "Barrier wall" (see claims 39 and 43) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

Art Unit: 3729

prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: The specification fails to disclose the claims subject matter such as "barrier walls" (as recited claims 39 and 43). At least the Specification discloses the "chamber walls" which does not seem to be consistent with the "barrier walls" as recited in the claims. Appropriate correction is required.

Claim Objections

5. Claims 39-53 are objection. It is not clear what being referring as “Barrier walls” as recited in claims (i.e. claim 39, line 7, claim 43, line 13). Note: that the specification only discloses the “chamber walls” (Specification pages 6, 7 and 10) but “not barrier wall” as recited in the above claims.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 39-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Baughman et al. (US 5,387,314).

As applied to claim 39, Baughman et al disclose a method of manufacturing a bubble- jet type inkjet printhead, comprising: forming a plurality of resistive heater (16, Fig. 1) elements comprised of patterned resistive material on a substrate (12), forming a patterned electrode layer (24a) on the substrate, the patterned electrode layer being electrically connected to the resistive heater elements, forming barrier walls (15) over the substrate, the barrier walls separating pairs of patterned resistive heater elements from each other; and attaching a nozzle plate (22) to a top of the plurality of barrier walls, the nozzle plate being perforated (32) by a plurality of nozzle holes, each nozzle hole being disposed above a portion of the substrate between a pair of patterned

Art Unit: 3729

resistive heater elements, each nozzle hole (20) also being disposed between a pair of adjacent barrier walls (see sequence Fig. 1, 2a-2b and Fig. 3).

As applied to claim 40, Baughman et al disclose forming an insulating layer as read barrier layer (17) over the substrate, over the resistive heater elements and over the patterned electrode layer, the plurality of barrier walls being formed on the insulating layer (see Fir. 2a).

As applied to claim 41, Baughman et al disclose the resistive heater elements being formed in pairs (16, Fig. 2a), Wherein barrier walls (15) serve to separate one pair of resistive heating elements from another adjacent pair of resistive heater elements.

As applied to claim 42, Chan et al disclose the electrode layer as read lead (24a, Fig. 2a) is deposited so that each pair of resistive heaters as lead (24a) are electrically connected in series (see sequence Fig. 1, 2a-2b and Fig. 3).

As applied to claims 47 and 48, Baughman et al disclose the barrier walls (17) being adapted to group together the plurality of resistive heater elements in pairs (16).

As applied to claim 49, Baughman et al disclose wherein pairs of the plurality of resistive heater elements (16) are dedicated solely to corresponding ones of the plurality of nozzle holes (20).

As applied to claim 50, Baughman et al disclose there is a two to one correspondence between the resistive heater elements (16) and the nozzle holes (20).

As applied to claims 51 and 52, Baughman et al disclose each of the barrier walls separating one pair of the resistive heating elements from other adjoining pairs of the

Art Unit: 3729

resistive heater elements while separating individual ones of the nozzle holes from adjoining others of the nozzle holes (Fig. 4D).

Response to Arguments

8. Applicants' arguments with respect to rejected claims 39-42 have been considered but are moot in view of the new ground(s) of rejection.

Claims 43-46 would be allowable if rewritten or amended to overcome the claim objections. Set forth in this Office action.

This application contains claims 34-38 drawn to an invention nonelected with traverse in filed on 1/6/2006. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tai Van Nguyen whose telephone number is 571-272-4567. The examiner can normally be reached on M-F (7:30 A.M - 4:30 P.M).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3729

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TN.
August 22, 2006



MINH TRINH
PRIMARY EXAMINER